

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-001166**Date Inspected:** 09-Jan-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 830**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1800**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** See Below**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** Tower and OBG Fabrication**Summary of Items Observed:**

Caltrans Quality Assurance (QA) Inspector, Mr. Paul Dawson, arrived on site at the Zhenhua Port Machinery Company (ZPMC) facility at Changxing Island, in Shanghai, China, for the purpose of monitoring welding and fabrication of the San Francisco / Oakland Bay Bridge (SFOBB) components. The QA Inspector observed the following:

Orthotropic Box Girder (OBG) and Tower Mock Up:

CWI Inspector: Wu Ming Kai, Yi Ru

QA Inspector observed ZPMC welder Ms. He Yu Mei stencil 48625 is using welding procedure specification WPS-B-T-2132-2 using the flux cored welding process for fillet tack welds on OBG PL74B side plate SP015 stiffener welds SP015-01-017. The QA Inspector observed a welding current of approximately 280 amps, 29.2 volts and the base material has a minimum preheat temperature of 60° C. Items observed by the QA Inspector appear to comply with project specifications.

The QA Inspector observed ZPMC welder Mr. Sun Tiyu stencil 54459 is using welding procedure specification WPS-B-T-2132-2 using the flux cored welding process for fillet tack welds on OBG PL74B side plate SP015 stiffener welds BP015-01-027 and BP015-01-028. The QA Inspector observed a welding current of approximately 285 amps 28.0 volts and the base material has a minimum preheat of 60° C. Items observed by the QA Inspector appear to comply with project specifications.

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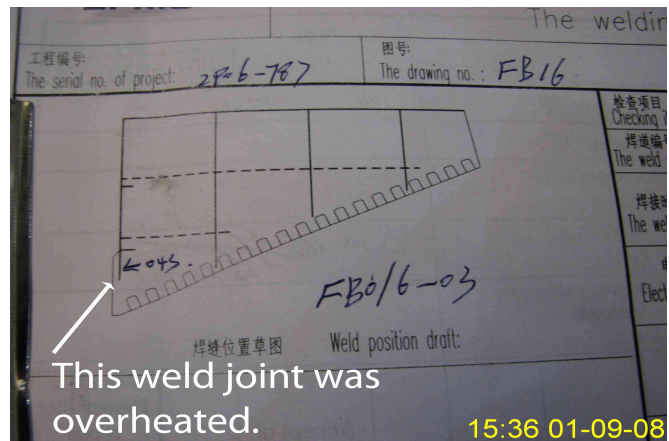
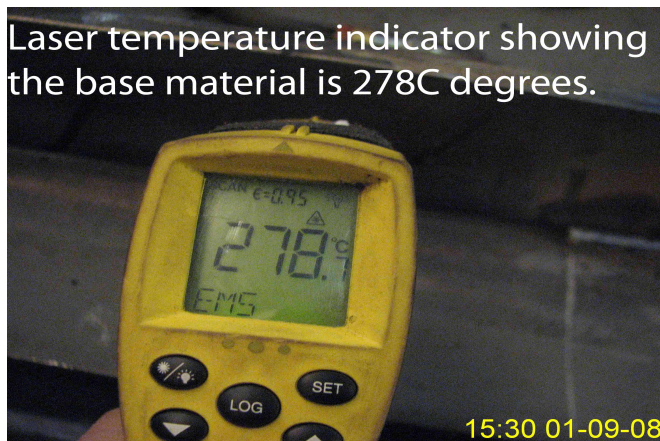
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The QA Inspector observed ZPMC welder Mr. Wang Zhonghua stencil 53753 is using welding procedure specification WPS-B-P-2112-FCM using the shielded metal welding process for fillet tack welds on OBG side plate SP004 stiffener weld SP004-01-005. The QA Inspector observed E7018 4.0 mm diameter electrodes, a welding current of approximately 185 amps and the base material had been preheated to a minimum of 60°C. Items observed by the QA Inspector appear to comply with project specifications.

The QA Inspector observed ZPMC personnel perform heat straightening of OBG PL89C side plate SP033 as directed by HSR1(B)-133. This HSR has been approved by Mr. Hu Gang on 12-27-2007. The QA inspector observed Quality Control Inspector Mr. Duan Yabing monitoring the heat temperature using a laser indicating device and the maximum temperature that Mr. Yabing had recorded is 537°C. No weights were placed on this plate during this flame straightening. This work is taking place on an elevated platform approximately six feet above the adjacent floor. Items observed appear to comply with project specifications.

Bay 7:

The QA Inspector observed ZPMC welder Mr. Yang Wensong stencil 55491 is using welding procedure specification WPS-B-T-2232-TC-U4b-F-1 using the flux cored welding process for fillet welds on OBG floor beam 16 weld FB016-03-043 between plates X7J and X94E. The QA Inspector observed a welding current of approximately 290 amps 30.5 volts and the base material where Mr. Wensong is welding has a temperature of approximately 275°C. The welding procedure specification lists a maximum interpass temperature of 230°C and this maximum temperature has been exceeded. The QA Inspector informed ZPMC QC/CWI Inspector Mr. Yi Ru that the base material temperature where Mr. Wensong is welding has a base material temperature that exceeds the maximum allowed by the WPS. Mr. Ru said Mr. Wensong will stop welding until the plate cools down and ZPMC QC Inspectors will be more careful to monitor interpass temperatures in the future. Items observed by the QA Inspector do not appear to fully comply with project specifications and a Quality Assurance Incident Report was issued to document this procedure violation. See the photographs below for additional information.



Summary of Conversations:

See above for summary of conversations.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Mazen Wahbeh, (818) 292-0659, who represents the Office of Structural Materials

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for your project.

Inspected By: Dawson,Paul

Quality Assurance Inspector

Reviewed By: Cochran,Jim

QA Reviewer